

Aviation News

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New Role: Presiding last week at the fourth annual National Aviation Clinic at Oklahoma City was L. Welch Pogue, former CAB chairman, now president of the National Aeronautic Association, co-sponsor with the Oklahoma City Chamber of Commerce of the Clinic. This was Pogue's first appearance before a major aviation gathering in his new role as a non-Government aviation spokesman. He was elected NAA president at the national convention in July. Co-chairman with Pogue of the Clinic was Oklahoma's Governor Robert S. Kerr. (Story on page 7).

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THE AVIATION NEWS

Washington Observer



TIGHTER INSTRUMENT REQUIREMENTS—Sharing airline concern over recent accidents in bad weather, CAA Administrator T. P. Wright is studying a plan to make instrument rating come up for renewal each six months, and for CAA air carrier inspection to do more spot-checking of instrument ability. Glued present regulations, an instrument rating is good indefinitely, subject only to the requirement that its holder must have had six hours instrument flying during the preceding six months. Most present spot-checking by inspectors is confined to checking pilots along regular routes, and not necessarily on instrument flying.

RECIPROCATING VS. JET ENGINES—Another spotlight on the terms among some top officers at Wright Field that is provoking bitter contention by piston, most progressive workers is a controversy raging in the powerplant section over the respective merits of reciprocating and jet engines. While Great Britain has converted almost completely to jet propulsion, old-line powerplant engineering offices at Wright are refusing to recognize any benefits of jet propulsion and are insisting all effort be devoted to further development of larger and more powerful reciprocating engines.

FOOT IN THE IRON CURTAIN—Washington officials see in the proceedings at the Moscow negotiations between Denmark and Russia a breakdown in the Soviet hands-off policy of making any military agreement shrouded. However, the expert Russian air force refused to discuss entry by the Doones into Moscow. Instead, they have offered rights for various Russian-controlled cities outside the Russian borders. The Doones are holding out for the capital or nothing.

CLINIC TO ROTATE—While high in their praise of the manner in which Oklahoma City has handled the first annual National Aviation Clinic is due, and appreciative of Oklahoma hospitality, some of the organizers of the Clinic feel the time has come to begin rotating the meeting each year among other major cities located in key sections of the country. They point out that the very word National on the title of the big annual get-together means it should not be confined to one city, and fear that there is a trend toward the Clinic's being identified only with Oklahoma City. The National Aeronautic Association, concerned the Clinic is a national forum for aviation and there is important opinion on the side of moving the meeting to a different city each year.

CHARGES FOR AIRWAYS—CAA Administrator Wright will submit a report to Congress in January on the subject of charging for the use of Federal Airways, but personally feels that such charges should not be made at this time. He does not know what he will recommend to Congress, however, and is leaving from the committee he appointed to study the matter. Wright is still working under a wage-increase freeze but a CAAV has budget hearings by Tennessee's Democratic Senator Kenneth McKellar. Wright feels McKellar is responsible for CAA's efforts to obtain revenue from its publications as an economy measure.

CRACK-DOWN ON NONSHEDS—The job of unscheduled passenger air service adjustments, skirting pretty close to changing frequency, are being studied recently by CAA's technical staff, with some serious opinion meaning that a crackdown is in the offing. A number of Board officials feel it is impossible to believe that these operations are so rare as not to realize they are violating the unscheduled exemption order as reinterpreted in the Page and Treadwell cases. A few unscheduled carriers have recently instituted considerable discontinuities in their services in an attempt to move back inside the regulations. Others continue in illegal violation, realizing that an adjustment of their operations to meet strict spirit-of-the-law exemption requirements would lay up enough of their equipment to cause bankruptcy.

NONSETTLING SETTLEMENT—The War Department directive which was supposed to settle the guided missile pendulum in the Army by naming AAF in charge of development (Aviation News, Oct. 14), settled nothing for key scientific workers outside who have been cooperating with the Army. They ask if weapons such as the Navy's Blue bomb (see Page 9), which is being used in its own coastal area it leaves the matter ship, are "guided." It is still a matter of interpretation, they say. And an interpretation is always open to dispute.

NEW AD APPROACH—Public relations men in the airline industry were turning their thought last week to a possible shift in the tone of airline advertising—away from the four-color job emitting the virtues of airline travel to a more realistic report on what is being done to cope with problems of safety, congestion and general public service. Pace in this direction was set recently by UAL, and the recent series of airline accidents has given the idea impetus.



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To transport passengers in luxury and comfort, two from Airfoam on longest flights, providing new airlines like the Douglas DC-4 are equipped with deep-cushioned AIRFOAM seats, and AIRFOAM mattresses, too, in sleeper types. This wonder cushioning—a product of Goodyear research—rests the body on millions of foam-like cells, insures perfect rest

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NATIONAL AIRCRAFT SHOW
November 15-24, 1946

Future U. S. Air Policies Plotted At Fourth National Aviation Clinic

Top aviation men tell of future development and regulation of carriers, airports, private flying; cold facts and realism, clinic tone

By ALEXANDER MCGURLEY

A violently fascinating and unorthodox U. S. aviation industry which has just gone through a year of turbulent postwar readjustments, including tremendous expansion in some quarters and drastic shrinkages in others, last week geared for answers to the multiplicity of problems among operators and customers of the fourth National Aviation Clinic at Oklahoma City.

Top government aviation men plotted future policies for development and regulation of passenger and cargo carriers, airports and private flying, and projected the 1950-passenger airline industry into a future world of super-jet aircraft and guided missiles. Manufacturers emphatically approved the uncertain future of aircraft production while fixed base operators and passengers' representatives debated specific improvements needed in aviation products and service and outlined ways in which airplane could be utilized more effectively.

None of the entire clinic was cold facts and realism which in some cases became pessimism, sharply contrasting with the ebullient optimism of earlier days. U. S. aviation had found its first postwar year a rough and tumble one and would at all times that the second year might not be even more rough and troublesome.

CAR chairman James M. Landa talked frankly to the clinic and particularly to the air carriers about recent air line mishaps and their toll of dead and injured.

"It is your training, education, maintenance and supervision that will kill the American carrier or carry him safely. The best regulations and acts are set at naught

in the consequence of all accident statistics; pilot error . . . Shipboard procedures in maintenance, pilot and other personnel training, under pressure of public demand for air transportation can have nothing but a beaver effect upon our common future. . . . There is no excuse for negligence . . . No penalty for negligence can be too severe. . . ."

He added, in a premonition, that CAR is investigating recent accidents to see whether they are just a series of "happenstances" or due to reasonable conditions. He promised regulatory steps to tighten up maintenance and inspection if investigation shows them at fault.

A half dozen "vocalist" public complaints a day dropped on CAR's doorstep about inadequate air line service, makes CAR impatient with air carriers who project further expansion while they are unable to serve adequately what they already have, he pointed out. He saw an emphasis too often set on new roads on more speed, more engine efficiency, quicker turnarounds.

Current airline passenger rates are regarded as reasonable by CAR, and should be maintained during the current transition to new equipment, while costs are unstable, and additional taxes may be mitigated. Future hope for cost reduction lies in cutting ground operations rather than flight costs. Six-dollar or more subsidies are only a fraction of the public's payment for air travel, with a substantial profit to the Post Office Department. Recovered some of the CAR's recent proposal to revise regulation of unscheduled airlines are virtually

unanimously agreed on stringent safety regulation, a sharp distinction between cargo-only operations and passenger flights. Many comments seek uniform treatment of the unscheduled operations, either overseas or domestic. He predicted early action on unscheduled regulations. Steps are being taken toward simplification of CAB red tape, he indicated, with assistance "not financial," of the Bureau of the Budget. Chairman Landa also indicated that the CAR frowned on certain advertising practices of the unscheduled operators, recommending use of the term "immediate service" and suggested by the CAA as misleading.

Variations in the plan form and aerial action of airplane wings to take full advantage of possibility of transonic and supersonic speeds were described by John Victory, executive secretary, National Advisory Committee for Aeronautics. Swept wings, extending at angles either backward or forward from the fuselage, and extremely thin struts sections of diamond or circular air shape, are indicated.

Airplanes are expected to fly soon either at speeds below 600 mph or above 800 mph, when the sonic barrier has been passed, and still more data about transonic speed are available.

"Aviation needs full understanding and not merely from government," Harold L. Edwards, United Nations Relief Administration Director, and former mayor of New York, declared. Asserting that airlines were guilty of "diversionism" in attempting to take over aviation jurisdiction which should belong to the federal government, or local city government, he renewed history of federal acts to navigation and highways as precedents for federal support aid.

Like the early days of the railroad, the airline industry has kept its focus close financially," Landa added. "Early financing of the railroad was critical, with millions lost by investors."

He warned against permitting airport legislation to sink to the

level of pork barrel legislation like that for rivers and harbors, and ordered CAA for interpreting the airport bill to allow large percentage of the funds to be directed to small airports.

He warned against establishment of "super" regional authorities to operate airports or aviation problems, asserting that they had no checks of an elected government and all of its whims.

Procedure to be followed in the federal airport aid program which opens public hearings in Washington Oct. 22, was outlined by CAA administrator T. P. Wright. A community first priority is a CAA district engineer's project request, stating the type of airport desired and the sponsor's readiness to begin construction if aid is provided. The request is first passed by the engineer and then, by the CAA Washington office for a tentative allocation of funds. The local government then submits agreement to operate and maintain the airport for public use and final plans and specifications. If this is satisfactory, CAA will make a final grant offer within 60 days as a grant agreement, completing the transaction. The sponsor then may go ahead to begin construction, obtaining the federal share of the project cost in installments as the project progresses. No provisions have been made thus far to loan money airplanes from airports constructed under this program as a necessity, the administrator told a press conference. However, if property owners' objections force the aid to be placed on the list of loans to utility in the overall plan, it can be discontinued for a loan. Wright said he had asked the CAA whether some created by airplanes could be considered a utility violation and thus under Federal jurisdiction, but that he did not expect the Board to consider it such a violation. He hopes that the pressing needs by the federal airport program will be all that is needed on top of the existing national airport program to provide real stability and to stimulate private development at local airports.

Class arguments for and against allocation of surface terminal construction from air transportation were presented to a debate by Robert Kierspeck, executive vice-president of Air Transportation Association, and Robert S. Henry, assistant to the president



NEW SWEDISH FIGHTER

One of the domestic fighter designs of the Swedish air force is the Saab 37-VII, a single-engine probe two-beam monoplane with a delta wing. It has a maximum speed of about 28 ft. and top speed around 60 mph. It is also used for reconnaissance and light bombing. A jet-propelled version, 37-B, is in the experimental stage.

Association of American Railroad

The railroad's spokesman attacked the policy of exclusion of surface carriers as narrowing the field, and preventing the public from getting the full service to which it is entitled. Rumpel pointed out that the history of all U. S. transportation was one of economic regulation and called for development of co-ordinated services without the ownership of different forms of transportation by the same company. Entry of surface carriers, either on or water, into air transportation directly, he contended, if permitted by the CAB, would result in control over air transport by the older forms, and have a serious effect on air transport.

Joint ownership and operation of airport terminal facilities necessary for handling passengers, mail, express, freight, and housing of airlines personnel for these activities, was called for by Joseph McGoldrick, former New York congressman, who pointed to the new joint airline-operated Chicago Airport Terminal as an example of what might be done in many other cases. He urged that terminal facilities be kept extremely simple and flexible during the next few years while the patterns of ground operation are undergoing important changes.

Arthur J. Beerman, De Moines publisher, and NAA vice-president outlined the federal airport act as not providing enough money

to expand and not promoting existing facilities and employment benefits. In the long run he believes aviation interests and the public would be better off without further federal airport financing. He recommended instead a plan where the government

would finance purchase, grading and drainage of land and provide two adequate runways. That would be issued to a few city, or perhaps to veterans, for a yearly amount equal to 2 1/2% interest on the cost. He called for development of airline revenue producing business at existing airports to help carry the financial burden and warned that many cities find base operations were paying more for their use of airports than the airlines.

Utilization of air cargo facilities to speed distribution of mail order merchandise was described by Robert W. Jackson, president, Alden, Inc., Chicago. He said in the past, his company plans daily schedules of air freight shipments of customers' orders to Memphis and Atlanta from Chicago as a test of this facilities.

He called for more effective consolidated pickup and delivery, improved loading, storage and handling of air freight at airports, and use of planes primarily designed for air freight, not converted passenger equipment.

Plans for a series of GI flight training rates throughout the country before presently effective flight contracts with approved schools expired June 30, 1947, were announced by N. H. Hovener, Veterans Administration director of training facilities who also discussed plans are under construction to add a second for air transportation pilot rating to provide accelerated flight instructor, instrument rating and multi-engine rating courses now approved for Veterans. He wanted of heavy responsibility on state approval agencies to see that only well-qualified schools are approved.

Navy Bat, Homing Guided Missile, Is Potent Anti-Shipping Weapon

Radial guided bomb goes into routine service with air units, can be used on fighters; top speed 320 mph

By WILLIAM KROGER

Indication that guided missiles rather than being plans for the future, are weapons of today is seen in the action of the Navy in putting into routine service the "Bat," a radar-directed homing guided bomb which is a tremendously potent missile.

Further significance of last week's announcement by the Navy is that it points to the day not too far distant when the Bat-type of weapon will equip all orthodox bombs for use against shipping.

Three years have gone into the development of the present efficient version of the Bat that was demonstrated for the press at Norfolk, N. C. The Bat was first used against Japanese shipping April 30, 1945 by two specially-trained PB-4Y Corsairs equipped with the Bat-type of weapon and continued in experimental service for the balance of the war.

Electronic Unit—Chief purpose of the Navy's present move in putting the weapon into routine service is to substitute all Naval units in the use of new "Buck Rogers" weapons. Compared to what is now in the laboratory is experimental stage, the Bat is obsolete. However, it is still highly efficient.

An Aviation News representative was aboard the Navy PB-4Y-2 that last week launched the demonstration flying bomb at an abandoned tanker anchored in 60-s water Pamlico Sound. At 1,600 ft. altitude, and four miles from the target, the Bat was cut loose from the mother aircraft. It picked up speed and plunged through an overcast.

Though a hole in the clouds, the yellow-winged bomb was glimpsed for below, antissubmarine warfare. The Bat, before clouds again hid it. Observers later reported it scored a direct hit on the water line amidships of the low-lying, 245-ft. tanker.

Speed of 320 mph—With a four-and-a-half to one glide ratio, the Bat can be launched from as far as nine miles from the target. Its top speed is estimated at about 320 mph. It carries one 1,600-lb.

bomb or its equivalent. Only 12 ft. long with a span of 19 ft., the Bat has an extremely high wing-loading of approximately 64 lbs. sq. ft. This is considered to be undesirable, aerodynamically speaking, but the overall aerodynamic and control problems of the glide bomb have been so great that researchers have been able to offset this disadvantage in that aspect of the missile.

The great value, as that it enables the attacking aircraft to launch its bomb well out of range of enemy search. Additionally, it is highly accurate. Naval officers who have participated in tests at Norfolk declare it will be attached to the

end of the belt that contains the most steel. It can also be used against bridges and railroad buildings—anything that will provide such radar contact.

Although designed for service with large patrol planes, the Bat is proving extremely versatile. Navy is now conducting tests that indicate success, with three launched from PB-4 Corsairs. These fighters do not carry radar but the pilot aims the weapon by piping in the Bat's own radio, which is in the nose of the missile. After release, a fighter pilot can line up the arm and release it in seven seconds.

Radio Switch—In its bombing phase, the Bat's radio pickup is rigged into the mother plane's own radio sets through what the Navy calls an umbilical cord. The operator in the plane picks up the radio in the air and looks at it.

At the predetermined release point, he presses a button that from the Bat. The missile's radio is still locked on the target and it will follow it through any overcast. The radio of the Bat is



Versatility of Navy's Bat Bomb—The radar-directed glide bomb demonstrated publicly for the first time last week can be carried by a wide variety of aircraft, although it was originally conceived as a weapon for large patrol bombers such as the Princeton class. While the Princeton carries a Bat in each wing station, the newest variant and the smallest, the 801-armed PB-4 Corsair is probably the more deadly design. In addition to the 1,600-lb. bomb in the Bat, the Corsair carries its usual complement of rockets and other armament so that, unlike the Princeton, it is still a dangerous aircraft after it has been released. The bomb, slung under the Corsair's belly, floats the plane between 10 and 20 mph. (Press Association photo)



NAVY'S SKYRAIDER IS AIRBORNE ARSENAL

Playing the explosive punch of a light bomber, Navy's carrier-based AD-1 Skyraider, now in production at Douglas Aircraft's El Segundo plant, mounts 12 5-in. and two 12-in. Troy T-16 rockets. Part of the new attack types, Skyraider is said to carry a 9000-lb load of various kinds of munitions further than any other plane of its type in service.

always in a flat glide and its outboarders can necessarily consist of only two in that plane.

The BuA's 13-ft. length is packed with minute devices beginning with the radar housing at its nose. A whirling all-weather indicator picks up the returning waves, indicating whether the missile is to the right or left of the target. The impulses pass back through the radar to a gyro-tilt which transmits proper instructions to a servo unit located (see below) toward the tail.

The gyro is the brain, and the servo the hands of this missile. The servo actuates the elements on the wings which changes the BuA's course. Just nearest the tail is the 13-1/2 foot battery.

The rest of a single BuA is gyro.

• **Servo Trick**—Transient part of the device is the servo, which was developed at the Servo-Mechanism Laboratory of the Massachusetts Institute of Technology by Dr. A. C. Hall in 1942. The latest model servo is now made by Lombard Governor Corp., New Boston.

was made originally by the company of Eugene Vidal, former director of the Bureau of Air Commerce. Vidal's company had the process for laminating wood, of which all present BuAs are made. Future models will be of metal. Airframes are now being made by Carden Eastern Motor Corp., Camden, N. J.

The Bureau of Standards coordinated the first project, with the Naval Bureau of Ordnance being the developing agency and with the Bureau of Aeronautics cooperating. BuAs are assembled at the Naval Aviation Ordnance Plant, Dayton, Ohio, and BuA, which will be the Navy's experimental and development base for BuA-type missiles.

Lockheed Cancels Saturn Production

Delayed by power plant difficulties and the prospect of alternate production delays which would jeopardize its market position, Lockheed Aircraft Corp. has suspended its Saturn 14-passenger light transport project.

A prototype was test flown this summer, and subsequently (Aviation News, Aug. 18), a contract for five Saturns with an option for an additional five was received from All American Aviation. Deliveries of the plane had been expected to start in the spring of 1947.

Taylorcraft Corp. Sues C. G. Taylor

Taylorcraft Aviation Corp., Alliance, Ohio, last week filed a \$2,000,000 damage suit in Cleveland Federal district court, against C. G. Taylor, former head of the company, alleging that he had made "false and untrue statements causing the firm to be embarrassed and damaged in the aviation industry."

The suit was a counter suit against one previously filed by the Alliance airplane designer against the company in Cook Co. (Ohio) common pleas court, asking \$5,000,000 damages from the company, for injury to its reputation. The injury was caused, he alleged, by the firm's "continued representation" that he was the designer of a plane constructed of "aluminum and other materials."

Aircraft Housing Deal Moves Toward Action

Goodyear, Taylorcraft, Consolidated are cutting aluminum prefab bids, Douglas still considering contract.

By BLAINE STUBBSFIELD

Aircraft plant production of prefabricated houses moved from talk toward action with announcement of plans by Goodyear, Taylorcraft, and Consolidated Vultee.

Donald Douglas is in personal contact with Wilson Wyatt of National Housing Administration and with Charles and Richard Lincoln of Lincoln Homes Corp., whose design he would use, and is a good bet for 100,000 units per year.

• **Stand on Marketing**—Aircraft companies are timid about marketing, a problem they never faced in wartime production. Douglas, Martin, and others have lost Ben Huth H. Mitchell, a leader in the housing campaign on Capitol Hill, that they would like better sales and distribution guarantees.

Lincoln Corporation, trying to measure that obstacle, at least in the case of Douglas, has agreed to assume responsibility for marketing and distribution, with no decision as yet. Other aircraft manufacturers add subsidiaries, they build facilities available to produce houses, and are willing, at terms are suitable. These are Bell, Boeing, Ryan, Kellie, Beech, and Curtiss-Wright.

Some companies, not officially named, are keeping political pressure for houses will get them

government contracts with no marketing bids. NHA's present offer, under which HFC would purchase inside houses, guaranteeing 80% of manufacturers' costs, could leave them profitless, they say. But some companies, accepting that deal, shrewdly of Wyatt making the sale are slow.

• **Wishes to Produce**—Curtiss-Wright has said it is interested only in a fully-proven house design and its production under contract, with no distribution problem.

Chicago Vultee General Products is quoted by NHA spokesman as definitely planning to produce prefab houses of conventional style, at the rate of 400 a day, or 120,000 a year. Panels will be in say 20-foot square, suitable inside and out. With light steel framing.

Vultee has put a non-functional pitched roof on the Lincoln design, for these who don't like fast. Company plans also to produce prefabricated units, cabinets, and other components, for their own houses and the aircraft-produced houses. NHA is enthused about the Vultee line, and believes it will send air companies to take seriously this opportunity to get into what may be big business, while the way is open.

NHA experts are telling Wyatt that a few prefab houses, as a solution of key parts would be worth millions of words, and are urgent him to produce them by whatever means he can. Don't be surprised if the program of building a display unit on vacant lots.

• **Wanted Chances**—Both NHA and Congressional leaders feel that prefabricators, up to now, have

Drone Missiles

On the strength of the performance of B-17s as drone (radio) planes at the beginning of the war, and later in the B-24-Columbia fight, AAF is reported to be considering the launching of thousands of surplus heavy bombers into drones.

Such a program would serve to give the country a large force of guided missiles, it is pointed out, until the long-range missile warfare program of the service could begin to produce in quantity. Plans under consideration are B-17s and even B-24s.

modified their chance and missed the point, as far as present emergency is concerned. Their "crisis-atoms" have prejudged public opinion, and they have used mostly materials that belong in conventional construction-type buildings.

Sen. Mitchell, and NHA, agree that prefabs should adopt materials not previously used in houses, and that they should conserve technically in a new art of making houses in factories on production lines. Such overhaul, they say, can stay close to conventional style, and away from economy.

Goodyear will begin delivery of houses, at \$4000 to \$4500, in several weeks. Company has given lists on materials for a list list of 20 units of its own design, and on basis of experience sought staff to the Lincoln plant. Taylorcraft, long-time producer of light air-



NEW FUELING SYSTEM IN ACTION:

Advantages claimed for the new fueling system illustrated above in action at Missouri International Airport, New Orleans, are speed, safety and ease of handling. Illustrated by Standard Oil of New Jersey, the method features use of a light truck in pump fuel to the plane from outside the cargo cabin. A valve leads through a valve bar (at left in picture) in

with a drip-proof quick coupling. Average delivery of about 1,000 gal. to a large transport plane can be made in seven minutes. Maintenance of the truck, called "Emphatic," cuts time needed to refuel via jettison for fueling. Only about 20 gal. of fuel are above ground at any time, compared with 1,000 to 1,200 in tank truck. Features include installation of Wright Field, Illinois, and Goodyear.

planes, hopes to build 15,000 hours of pilot or simulator in 1987.

Plus Flight Data. Harry Woodhead, Consolidated Vultee president, said his plant at Downey, Calif., is head-building a unit to sell at around \$7000, and will produce at 40 to 100 planes per day by next spring, if NIAA can guarantee a flow of materials and a market. Herndon S. Plant, Consolidated official, has been in Washington, negotiating with Wyke.

Douglas is raising questions about distribution, guarantees, quantity of production, factory expenses, labor union cooperation, interference with aircraft production, etc., but NIAA is convinced he would spend so much money only on a pretty sure thing.

Fuller Hansen, Inc., Wichita, is reported by Chamber of Commerce there as having a letter of intent from NIAA, guaranteeing market for 16,000 units, equal to a \$65,000,000 order. But Fuller, facing problems of engineering, management, financing, materials, etc., seems on the point of moving to some other city seeking better economy support.

Herman Wolf, Chamber president, said Beech Aircraft, which considered building a F-16 prototype here, would furnish parts even if Fuller goes into business elsewhere.

CAA Is Training GCA Technicians for Three Fields

Twenty-one CAA instrument leading technicians were on route to the West Coast last week to train in the use of Ground Control Approach radar landing system which CAA will install at

Washington National, Chicago Municipal and Los Angeles airports and put into service on Jan. 1.

Fifteen of the men will be trained as operators at AAF's Main Field, the other are will be instructed in maintenance by the manufacturers of the GCA unit, Collins Radio, Los Angeles. Fifteen of the men are from CAA Region I, which embraces Washington and New York and the others are from Region III which includes Chicago.

The Army is making the three GCA systems available to CAA and the Air Transport Association is paying for the cost of installation. The three units are now being tested by GCA. The radar accuracy of the systems will be re-tested into the control towers.

Safety Bureau Holds Accident Parley

Pilot and airline are summoned to discuss safety problems and their solution after series of air-line mishaps.

CAA's Safety Bureau, concerned with the recent accumulation of similar accidents, called representatives of pilots and the airlines to Washington Friday for a discussion of safety problems, and measures the bureau will insist on to accomplish their solution.

Prior to the closed meeting, to which CAA summoned men from the Air Line Pilot Association and operations Division of Air Transport Association, the production was made that it would be a "hard down, table banging" session.

The bureau feels that all of the

four accidents that occurred within nine days in the first part of the month are in the preventable category, though investigations have not been completed on the entire series. They included accidents involving an American Overseas Airlines DC-4 in which 29 were killed at Stapleton, Newfoundland, Oct. 3; a United Airlines DC-4 in which two lost their lives at Cheyenne, Wyo., Oct. 6; an Eastern Air Lines DC-4, carrying 26, near Alexandria, Va., Oct. 12, in which six were killed; and a TWA Constellation at New Castle, Del., Oct. 12, from which eight crew members leaping the plane, which carried no passengers, escaped serious injury. Aircraft was destroyed in each instance. The bureau's aim in calling the meeting was to select and point out the elimination of avoidable accidents.

Some of the problems whether the same measures should apply to four-engine craft as to two-engine, whether training programs provide enough transitional training in operation of larger equipment, whether maintenance is satisfactory and inspection crews are adequately staffed.

The meeting will be followed with further sessions in about two weeks with pilots and the airlines to check on results of last week's discussions.

Float Helicopter Gets CAA Certificate

CAA has granted Bell Aircraft Corp. the first approved type certificate for a float-equipped helicopter, covering an aircraft which appears substantially different from the previously-approved Bell Model 47.

Immediate purpose of obtaining a certificate for a float helicopter, Bell states, is to increase safety and safety during the current survey of potential natural areas being made in Canada. The survey is now proceeding deep in the bush country where there is little open, solid ground, but many lakes and large areas of muskeg. Bell indicates, however, that it has plans for other uses of the "Voyager."

The company expects that the float-equipped craft will prove an advantage since the majority of its output will be so equipped. Some company engineers do discuss the possibility of water floats with small retractable wheels standard equipment of helicopters.



First float helicopter with CAA. CAA has granted Bell Aircraft the first type certificate for a helicopter equipped with floats. Landing, toward October 5, is expected by Bell to result in greater interest for several projected applications of its helicopters, one of which is the Landsberg-Riem geographical survey of potential mining properties in Canadian bush country where lakes provide only landing space.

SPECIAL AIR SERVICES

CHARTER NON SCHEDULED INTRASTATE

Nonscheduled Carriers Eye Profits From Overseas Charter Operation

POA, Waterman making money on UNRRA flights to Europe and Asia as transport bottleneck on Atlantic often becomes.

By CHARLES L. ADAMS

The widening scope of profitable contract and other services are usually swamped, and many frantic elements are reported prepared to pay black-market rates for air transportation.

Free Move Regulated.—But whatever the rewards, it is expected that few nonscheduled lines are now in a position to move into the potentially-greater pastures of term-lease operations in the manner that many occurred into the lush New York-Miami traffic last winter.

Stable four-engine equipment is available to only a very few. How long such overseas operations could continue is also a question in view of CAA's pending action on proposed Amendment No. 1, Section 202.1 of the Commerce Regulations, which limits the unscheduled exemption to flights between the U. S. and the near hand of Alaska, Canada and Mexico on the other.

Opposition Resisted.—From the standpoint of post-war passenger demand and the inability of the scheduled airlines to meet it, opportunities for profitable nonscheduled and contract flights between the U. S. and Europe are excellent. The shipping strikes, delay in putting cargo teams in service, crowding of the Constellation last summer, and the assistance of thousands of persons who traveled to Europe in the face of warnings have combined to create the worst war-bound bottleneck in the history of trans-Atlantic travel.

Every berth on every ship and every seat on every plane is reportedly booked until January. Pan American Airways currently has 3,000 applications in addition to 7,000 confirmed reservations for passage from London to New York.

American Overseas Airlines, SOAC and other carriers are usually swamped, and many frantic elements are reported prepared to pay black-market rates for air transportation.

Free Move Regulated.—But whatever the rewards, it is expected that few nonscheduled lines are now in a position to move into the potentially-greater pastures of term-lease operations in the manner that many occurred into the lush New York-Miami traffic last winter. Stable four-engine equipment is available to only a very few. How long such overseas operations could continue is also a question in view of CAA's pending action on proposed Amendment No. 1, Section 202.1 of the Commerce Regulations, which limits the unscheduled exemption to flights between the U. S. and the near hand of Alaska, Canada and Mexico on the other.

Latest developments in unscheduled overseas operations to attract industry attention are Waterman's contract with UNRRA for term-lease Atlantic flights and the company's negotiations for two more. First run was Oct. 7, when 14,449 yards of petroleum were flown to London for transshipment to Italy and 40 UNRRA workers were brought back to the U. S. Second flight was Oct. 7, when 14,449 yards of petroleum were flown to London for transshipment to Italy and 40 UNRRA workers were brought back to the U. S. Second flight was Oct. 7, when 14,449 yards of petroleum were flown to London for transshipment to Italy and 40 UNRRA workers were brought back to the U. S.

UNRRA Flights.—Second flight, scheduled last week, and the third flight, set for this week, are from Washington to Frankfurt, Germany, where more UNRRA workers will be picked up for return to the U. S. Fourth and fifth trips, if approved, are destined for Rome and Athens, respectively.

In another UNRRA charter trip, Pacific Overseas early this month to 7,000 confirmed reservations for passage from London to New York.

one from Cleveland to Shanghai. The trip was made via Alaska, the Aleutians and Japan.

UNRRA has flown about 200,000 lbs. of cargo overseas during the first nine months of this year, with Veterans' Air Express Co., Newark, being the only other air-carrier participating in the business besides Waterman and POA. The relief agency has asked all interested carriers to contact its Director of Ocean Shipping in Washington to make bids on future overseas air cargo shipments, which will continue to Europe at least through Dec. 31 and to China through March.

Additional contracts for transportation of UNRRA workers may be in prospect since it is cheaper to charter special overseas flights to return the personnel than to pay the employees' salaries and expenses indefinitely while they wait for other transportation.

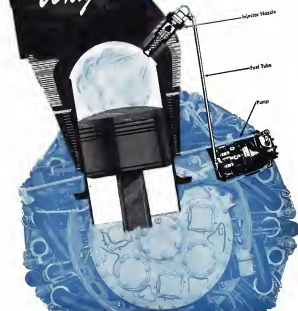
Four Nonscheduled.—UNRRA officials are favorably disposed toward using the facilities of unscheduled carriers, some of them submitting that these operators have provided more satisfactory than the certificated overseas airlines. It is pointed out, for example, that Veterans' Air Express, in carrying loads of hatching eggs to Prague, Czechoslovakia, last spring, had a 5 percent lossage. By comparison, a certificated airline, making similar runs with egg cartons, had a 40 percent lossage.



TIES FOR GUATEMALA:

Package and storage problems resulted in this shipment of 215 Peruvian tires to Guatemala were reduced to a minimum, judging from the slow docking loading of a U. S. Airlines C-47. The 7,000-lb. cargo was carried from Alaska to St. Petersburg, Fla., by Gulf S and then shipped across the Gulf of Mexico via Latin-American Airways.

THE Wright CYLINJECTOR



Sets New Performance and Safety Standards

Developed by Wright and first used in long-range military operations, fuel injection now offers improved economy and efficiency for commercial installations of the Cyclone 18. The Cylinjector, as its name implies, meters fuel directly into the combustion chambers, maintaining uniform mixture distribution to all cylinders.

The Cylinjector increases smooth power, and provides a bonus of operating reserve through better economy. As there is no fuel in the induction passages to cause vaporization, idling, heating systems can be lighter. Starting and acceleration are both improved. The engine operates equally well with either high or low volatility fuel because the charge is atomized by injection.

The Wright Cylinjector consists of a spring-loaded poppet valve in each cylinder, with fuel tube fed in firing order by cam-actuated pressure pumps. In demanding for reliable operation and low maintenance, Wright engineers have again added to the long list of economies which engines of the Cyclone series offer the commercial operator.

WRIGHT

AERONAUTICAL CORPORATION
Wood-Ridge, N. J.

IMPROVED MIXTURE DISTRIBUTION. Fuel is evenly metered to all cylinders at all throttle positions.



IMPROVED FUEL ECONOMY. is shown in the curve above. Even distribution, with no lean cylinders to influence the throttle valve, results in better mileage and smoother.

IMPROVED SMOOTHNESS AND TORQUE. is shown in the curve above. Even distribution, with no lean cylinders to influence the throttle valve, results in better mileage and smoother.



IMPROVED CRUISE ECONOMY. is shown in the curve above. Even distribution, with no lean cylinders to influence the throttle valve, results in better mileage and smoother.

IMPROVED STARTING AND ACCELERATION. is shown in the curve above. Even distribution, with no lean cylinders to influence the throttle valve, results in better mileage and smoother.

IMPROVED FUEL ECONOMY. is shown in the curve above. Even distribution, with no lean cylinders to influence the throttle valve, results in better mileage and smoother.



WRIGHT
AERONAUTICAL CORPORATION
WOOD-RIDGE, N. J.

PRODUCTION

Pacific Airmotive Expanding Facilities

Anticipate \$6,000,000 business for year ending Nov. 30, as airline customers increase.

Looking forward to a gross business of nearly \$4,000,000 in the fiscal year ending Nov. 30, Pacific Airmotive Corp. now boasts that it is the largest engine, propeller and accessories overhaul and sales organization in the aviation industry.

In the space of one hectic year it has become entrenched with plants and service facilities in two Western cities, has moved Eastward as far as Kansas City, is eyeing East Coast markets with more than speculative consideration, and is making overtures to major foreign airlines for their overhaul and maintenance business.

No Surprise—To Earl Herling, P.A.C.'s newly calculating president, that will be no more than the result he anticipated from the speculative phasing he took in 1946. While president of Kaiser Motors he organized a group which bought P.A.C. from Rexell Aviation, owner of the property since 1937.

To Union Oil Co., about which

Herling painted a rosy picture of a fuel in the door of aviation, the forthcoming financial report should be highly satisfactory. Union's stockholders will learn that they have become controlling owners of a major and healthy aviation enterprise.

From a speculative supporting investment in P.A.C. made in Feb. 1946, Union Oil has increased its holdings from 42% to 53% of 650,000 Pacific Airmotive shares.

Present indications are that P.A.C., capitalizing on its experience gained from military engine overhaul contracts during the war, will try to capture the engine overhaul business of many major airlines and will venture more and more deeply into the field of personal aircraft maintenance and overhaul.

Present Contracts—Samples of this trend are Pan American's recently signed contract for the overhaul of all Pacific-Alaska Division engines at P.A.C.'s new engine overhaul plant at Oakland Airport, a Los Angeles contract to overhaul at Burbank the engines of DC-4s bought by Pan American International Airways, and development of an exchange engine overhaul plan for small plane owners.

Airline customers of P.A.C. engine overhaul and modification

services include United, K.L.M., TWA, Delta, Eastern, Pacific, National, Western, Frontier, Fireball Air Express, Southwest Airways, California Eastern, Western, and Matson.

To foreign airlines, such as Air France and Swiss Airway, a guarantee for future overhaul business is being laid by P.A.C.'s avoidance to send key maintenance personnel to its plants at Burbank and Oakland for training in the upkeep of American engines and accessories.

Make Tool Bench—More than smart entrepreneurship is behind the experience of this company, which operates from headquarters in Glendale, Calif., facilities in Burbank, Los Angeles, Hollywood, San Diego, Fresno, San Jose, Oakland, Kansas City, Seattle, and Anchorage, Alaska.

Herling, ever before introducing Union Oil to the company, began studies of service and maintenance facilities which P.A.C. might buy at locations showing greatest promise of early post-war aviation growth. He also gave the go-ahead signal to the North Hollywood factory of Airplane Manufacturing & Supply Corp., a P.A.C. property, in the design and production of propellers, pistons, hydraulic pump, magneto, starter and carburetor test benches that would outfit its expanding overhaul plants.

AAF Plans Storage of Vital Machine Tools

Filing in another check in its industrial preparedness plan, AAF's Air Material Command at Wright Field is formulating plans for storage of a reserve of 12,500 machine tools.

This program of stockpiling critical general purpose tools ties in closely with the plan outlined by Maj. Gen. E. M. Powers, chief of material, before the recent meeting of the Society of Automotive Engineers in Los Angeles (AVIATION NEWS, Oct. 14), for pilot lines in peace of special tooling.

In event of another emergency the most pressing need would be rapid expansion of special tooling from the pilot lines on the basis of the production experience built up in peacetime. A ready reserve of general purpose tools would enable the machine tool industry to concentrate on the special types.

Just before the end of the war, according to the Material Command, there were about 1,700,000 machine tools in the U. S., of which 60,000 were owned by the Government. Indenting how great becomes the need of tooling is wartime, AMC states that in 1937 the tool industry had a volume of \$300,000,000. By 1943 this had been boosted to \$1,233,000,000.

AAF now estimates that in the last year of any future mobilization, its tool needs would be about \$800,000,000.

Two years' ago, Wright Field made a study of tooling made to determine how many of each type of tool would be required to reach a certain production rate within a given period of time. Now, AMC personnel are policy through plants, depots and War Assets Administration warehouses in search of the tools that meet the standards decided upon in 1944.

When the tools have been selected, they will be shipped to a strategically located warehouse and treated for long-term storage. Constant maintenance and a daily check will be undertaken.

Plan Modified B-17s For Water Landings

Curtis-Wright Corp.'s airplane division at Columbus, Ohio, has been awarded an AAF contract to modify ten B-17 bombers to be used in test landings on water.



BI-COUPLE NEST

First of Engineering & Research Corp., Riverside, Calif., makers of the two-place Bi-coupe, two-control personal plane. B&R was one of the first aircraft firms to buy its wartime plant from the Government, operating this factory where it did Navy work during the war more than a year ago.

Program will take two years to complete as each plane will be prepared in a different way.

Purpose of the contract and the tests in ditching is to correlate information gained from tests with flight, with information growing from experiments in actual ditching of full-scale planes. It is hoped that sufficient knowledge will be obtained to enable AAF in the future to procurements the ditching qualities of aircraft.

C-W will redesign certain parts of the B-17's structure, as well as removing unnecessary equipment and installing water-tight recording equipment. Results of the tests on each plane will determine the

modifications to be made on the following test plane.

This latest contract is another in a series of miscellaneous production job undertaken at Columbus by Curtis-Wright to keep both its production facilities and workers in use. One of the major contracts recently obtained in this program is for assemblies and parts for Republic Aviation's AAF planes, P-41 and B-24.

The Columbus plant will produce clevises, rubbers, stabilizers, fins and other parts for the P-41, and wing panels, fuselage oil sections, stabilizers, rubbers, fins, elevators, ailerons, flap, engine mounts and nacelles for the B-24. Deliveries are scheduled to start late this year, and peak production is expected to be achieved late in 1945. C-W estimates it will employ more than 500 additional workers to fulfill the Republic contract.

Plan Recognition

Petition for recognition of the Lauer-Kaufman Aircraft Corp. under the Federal Bankruptcy Act has been filed in U. S. District Court, St. Louis, Mo.

The company's petition listed assets exceeding liabilities by \$168,761. Assets total \$1,280,490 and include \$805,028 in claims against the Government, \$13,616 in such as bonds, and \$111,449 in accounts receivable. Liabilities include \$481,137 in notes and loans and \$336,254 in accounts and wages payable.

The company produced \$15,000 worth of cargo gliders and aircraft parts during the war.



THUNDERJET POWER

A new photo of the PG-150 jet engine used in the Republic P-48 fighter. Reported to be the most powerful engine at high speeds now in use, the PG-150 (designed by AAF as J-39), was designed by Allen Howard, assistant design engineer of the turbo-propeller engineering division of General Electric Co., and is being produced for AAF by both GE and Allison divisions of General Motors.



FIREBALL FIX-UP:

Ryan Aircraft Co.'s main assembly building, little used since end-of-the-war construction, has been put back into use by the company in fulfilling a \$200,000 Navy contract for modification of Fireball combat planes. The company is repairing engine failures. Fireballs shown on the line are being given new armament installations and having other changes made preparatory to going into service on carriers.

THIS Silver-Brazed BOND

Armature and field windings

GIVES EXTRA STAMINA

Commutator wear

TO G-E AIRCRAFT GENERATORS

An exclusive feature of G-E aircraft generators is the silver-brazed bond that joins the armature windings to the commutator. This feature permits the generator to take short-time overloads which would normally cause failure in a tin-soldered commutator.

In other words, one of the chief causes of heat failure has now been effectively eliminated. G-E generators can thus be made smaller and lighter without fear of damage from overheating. Shop time for generator repair and overhaul is reduced. The over-all service life of each unit is considerably lengthened.

Silver-brazing of vital connections is typical of the entire care that goes into the manufacture of G-E aircraft generators. For example, armature and stator are protected against severe operating stresses, temperature extremes, and electrical losses by these additional construction strong points.

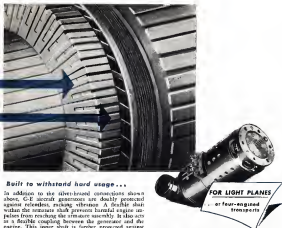
GLASS INSULATION
Used throughout to add greater resistance to overheating. An insulating coating on the armature packings means low core losses. Slots are cushioned with strands of glass fibre.

FORMEX® WINDINGS
Armature and field coils are made with space-saving Formex wire, famed for its resistance to high temperatures, moisture, and corrosion. High-strength building wire freely binds all windings.

SPARKLESS COMMUTATION
Compensated, interpole short-field windings assure sparkless commutation at all loads and speeds within the generator's rating and at high altitudes. Brush maintenance is kept to a minimum.

TYPE 40-400-100, G.E. 7-10-40

GENERAL ELECTRIC
INCORPORATED



Built to withstand hard usage...

In addition to the silver-brazed connections shown above, G-E aircraft generators are doubly protected against relentless, rocking vibration. A flexible shaft within the armature shaft prevents harmful engine impulses from reaching the armature assembly. It also acts as a flexible coupling between the generator and the engine. This inner shaft is further protected against leakage by a vibration damper drive. The mounting flange is specially designed and fabricated of forged steel to absorb hard shocks.

Aircraft manufacturers and airline operators, realizing that the planes of tomorrow will be judged on their ability to stay in the air and out of the repair hangar, are more and more looking to G-E for help on their electrical problems. General Electric designs and produces complete aircraft electric power systems in addition to such individual equipment as generator, voltage regulators, motors, cables, etc. Thus, G-E is in a position to offer wide experience, extensive engineering and testing facilities, and manufacturing "know-how." Why not call in a G-E engineer now to discuss your electrical requirements? *Aircraft Div., General Electric Company, Schenectady 5, N. Y.*



DIRECT-CURRENT GENERATORS are ideally suited for single-engined planes, and combine high output with light weight and small size. Two or four-engined planes use them in parallel with voltage regulators to meet heavier load requirements. Type 4-2 is rated 200 amperes at 20 volts, with speed ranges of 1190-1500 rpm, 4400-6000 rpm, or 1000-1000 rpm. Type 8-1 is 100 amperes at 30 volts, with speed ranges of 1500-2000 rpm, and 5500-8000 rpm. Type Q-1-100 supplies a 10-volt, peak speed range of 1400-2000 rpm.

AC Constant-Frequency GENERATORS
AC power systems for larger air craft are now made possible through the use of G-E 360-cps. ac generators, operating at constant frequency. Capacities include 40 kva, 200 (110 volt, 6000 rpm, 30 kva, 288 (110 volts, 6000 rpm).

AC Variable-Frequency GENERATORS
G-E makes a new rated 200 amperes, 50 volts d-c (15 amperes, 150 volts, single phase, 800-1000 cycles, ac) and also rated 20 kva, 0-9 ph, 228 (110 volts, three-phase 1400-600 cycles, ac).

Gas Turbine Starter GENERATORS
Powering an aircraft engine design, G-E also builds starter generators for use with gas turbines. One outstanding type operates on 400-cps, 10-volt, d-c power over a speed range of 1000-7300 rpm.



Foam in a sandwich makes a finer floor for flight

If 200,000 high heels were to walk over an airliner's floor, how many times would it have to be replaced? Three or four? Five or six? Some manufacturers may fight you over higher, because floors that are lighter enough for flight couldn't be made strong enough for regular life. "Flight" was mounted on a metal panel like a high heel in a rapidly eroding material... patches holes and cracks that require replacement. Now, so with a new B. F. Goodrich light floor material. A section of it is installed on a 16-degree ramp in the B. F. Goodrich offices last December has been along the pounding of approximately 7000 low heel high heels a day plus the pounding wheels of 41 road trucks. Other flight floor materials in this same use had to be replaced three times, but the B. F.

Goodrich floor material still continues to "ride it." The secret of its success is "foam sandwich" construction.

The sandwich (see inset) consists of a core of a new, lighter, stronger heel rubber floor between thin slabs of high strength aluminum. The result is a lighter weight floor with greatly increased load strength and resistance to underfoot.

One of the most important characteristics of this material is its economy low

surface absorption, which means that the sandwich does not give weight to service.

This feasible weight-saving with the new workability of the material, open to its many potential uses besides floors. Strong, lightweight panels, doors, fuselage, skidding, covered vehicles, can be made with it. For additional data, write to: The B. F. Goodrich Company, Aeronautical Division, Akron, Ohio.

B.F. Goodrich

FIRST IN RUBBER

PRIVATE FLYING

SALES FIXED BASE OPERATIONS SCHOOLS

Warnings on Lightplane Future Are Sounded at National Clinic

Piper urges caution in gauging current government-estimated flying boom and recommends developing transportation utility from personal planes.

By ALEXANDER MCILRELY

A sounding board for criticisms affecting virtually all phases of personal aviation, including dealers, instructors, manufacturers, and flyers, was provided last week by the fourth National Aviation Clinic at Oklahoma City, yet the No. 1 talk bearing on lightplane problems was the edifying, fervent appraisal of the industry's present, chaotic, expanded state presented by William T. Piper, president of Piper Aircraft Corp., Lockhaven.

Scheduled to forecast "the rate of change of aircraft production," Piper declined to make any specific predictions. He pointed out that the current private flying boom is a product largely of government-sponsored veteran training and of the tremendous aviation enthusiasm generated in World War II. How long these will continue to affect plane sales is questionable.

Stating that of business—the predicted that a number of the personal plane manufacturers would go out of business with the gradual leveling off of demand for personal planes, and that only a few newcomers capable of mass production would remain.

He recalled that in the early 1920's, personal plane sales had dropped from 6,000 to 2,000 to 500 in two years, because of personal business conditions. "And it could do it again," he added. Until the personal airplane gets the utility provided by many additional airports and becomes a real transportation vehicle, its market is severely limited as a sports instrument, he declared.

Preservative medicine, to temper the private flyer's aim or to "exterminate the weaver" which are

putting "the axe" on him, was called for by J. B. Hartshorn, Jr., manager of the Aircraft Owners' and Pilots' Association. Citing specific cases from association records to substantiate each charge, he listed among the "bitter" to which the private flyer is subjected: exorbitant charges by some "unconscientiously greedy" aircraft service operators, unjust airport landing fees, unscrupulous or unbusinesslike dealings by a few dealers, distributors and manufacturers, resulting in losses to flyers; overcharges on labor costs, CAA's \$5 recordation fee, proposed fees for use of federal airways and survey aids, duplicating lands and fees levied by several states against pilots and aircraft owners, unfair charges on fuel and oil made by some operators to transient pilots,

and use of aviation fuel taxes for recordation purposes.

Hartshorn's Recommendations—therein recommended—written estimates of work to be done, with prices, requirement that dealers and distributors submit copies of bills for repair work, to the manufacturer they represent as well as the customer, requirement for flat rate repair manuals covering all costs; appeal to public officials to eliminate landing fees; protests to CAA and individual compression from the entire industry on the \$5 recordation fee and proposed airways use fee; protests, sound education, to state officials against unfair tariffs and taxes; protests by genuine companies, through national aviation groups, on unequal fuel charges and action through national aviation groups on state fuel taxation. He sounded a warning to manufacturers, dealers and distributors, of steadily widening customer pressure to require rectification of unfair dealings.

Warning that the end of the seller's market for personal planes is "not too far off" Max Kerens, editor of Flying magazine, urged airplane manufacturers, distributors and dealers, to "make the personal run" for his check book, that "new-looking machine" on which the welfare of that entire industry depends.

Bowers Public Relations—"He described the personal aircraft industry as 'backward' in salesmanship, public relations and service and asserted:

"Unless something is done soon,



DANISH KZ-5 LIGHTPLANE

American writers who mistook Denmark recently were seriously impressed with the performance and ability of the 180 hp two-place jet-powered lightplane KZ-5, built by the Skovmark Aero Industri, Copenhagen, Denmark. Equipped with steel landing edge wing slats as well as slatted ailerons and flaps, the plane lands at only 38 mph, and cruises at 108 mph. Takeoff run with full load in no wind is quoted at 220 ft. with landing run of only 145 ft.

we're going to slide back to the ground side at private flying when the majority of pilots give up their licenses within two years and an unbelievable number of plane owners add to the disgust."

He called for adoption of the tri-cycle landing gear as an "absolute must" for the overall engine, fuselage, fuselage, unenclosed private pilot," and urged view of proposed characteristics, simplified controls, starters, improved-visibility windows, shoulder safety belts, and other items to make the planes safer and more pleasing to the customer.

Woman's Voice—Another voice in favor of the simplified cockpit, simplified, tri-cycle gear plane was that of Elizabeth Givler, editor of *Home Beautiful*, who first voiced in an *Aviation* in four hours 22 minutes, and has a total of 128 hours, mostly in conventional planes. "Anyone who approaches flying asking utility, convenience and a method of transportation will find the answer in two categories and tri-cycle gear," she declared.

Frank Clark, Oklahoma City Stinson distributor and automobile dealer, urged aviation to profit from the automobile business's mistakes. He called for standardization of service tools and repair kits; and accessibility of parts, so that any aircraft service operator has tools and parts for servicing most personal planes. He criticized failure to make and distribute estimates as a common fault with both auto and airplane service operators. "Never spend a dime without approval of the customer," he advised aircraft repairmen.

Simplaxia Growth—Growth of private flying interest in simplaxia, both fixed and amphibious types, was cited by Robert S. Felt, Bell Aircraft Corp. sales manager, who reported that in 1946 fixed manufacturing will have produced more than 10 times the number of floats than in any single pre-war year. He predicted within three years 10 percent of amphibious types will be converted to water use by changing wheels to floats according to season, while thousands of amphibious auto rentals to be built in the same period.

He urged need for development of many more airplane haws, but reported the number has already tripled from the 300 developed prior to the war. Between New York and Albany there is a base every 11 miles along the Hudson River and there are being built.

Soaring Wing Lightplane Is Sold to Designer

Jarvis M. Jr. of Glendale, Cal., has sold to the designer the radical VJ-21 aircraft using personal airplane nose under tail light, and all existing drawings. He is Volmer Jensen, West Coast glider designer. The plane is distinctive in its use of a single landing wheel protruding from a fuselage with retractable landing skids on the wings, and location of the power engine in a nacelle above the wing.

Bob Pres. Sam Jarvis: "We've decided to manufacture aluminum single-engine and two-engine light planes." During the war Jarvis was a subcontractor for production of machine components, and aircraft instruments. Optimistic in the



FLYING FAMILIES

Typical of growing world-wide interest in personal planes are plans of flying families, Britain and America. The *Armed Temple Family* of English, Ohio, shown left with their *Armed*, including father, mother, and three daughters, all are licensed pilots, and members of the Flying Farmers

Association. The *Shirley family*, of Bismarck, North Dakota, at right, built their own airplane and house on their farm, and have a 100-gallon fuel tank on the field as a reserve. The father has flown more than 250,000 miles, and she is taking pilot training in their three-place *Avator*.

Helicopter Pilots

On basis of experience at Bell Aircraft's helicopter pilot training school it is concluded that there is no actual learning skill to operate the helicopter than to fly a normal airplane, although it requires a little more concentration.

David Perrow, manager of Bell's helicopter division, speaking at the Oklahoma City National Aviation Club in place of Perrow's Lieutenant D. Bell, who was ill, said that licensed pilots landing at Bell school on the helicopter to the 6 hours, and received their helicopter pilot rating after about 55 hours, half solo.

Only licensed pilots have been selected thus far for training. Perrow predicts development of helicopters as large as 30 tons gross weight, as immediate limited commercial application for helicopters now commercially is second and third "within a year" of the helicopter has the best chance of success in the air for personal transportation. It shows even as a vehicle. First commercial delivery was in November, he reported, as the Bell two-place model, already approved by the Federal Aviation Commission in a quantity of 500 at the Bell plant.

early development of the VJ-21, he noted in the face of competition from established airplane builders possessing a variety of models for the personal aircraft market.

Better Teaching

Recommendations for a new approach to reduction of airplane accidents by acquiring more adequate instruction of flight students, were made at the National Aviation Clinic last week by Dr. Henry L. Lister, chief engineer, Aero Insurance Underwriters.

"Instruction, by and large, is learning and flying, and we know how to manipulate the airplane, but not sufficiently in terms of acquiring judgment and decision and plans," Lister said. He suggested a national program including:

"Training a candidate to determine how pilot training is deficient from viewpoint of safety as determined by CAA would means, with a report called for by Jan 1.

"Minimizing every influence to limit on qualified instructors and schools to correct deficiencies.

"Reorganizing CAA to base from an instruction failure to carry out full responsibilities.

"Proposal of a code of ethics for instructors.

"Attempts to trace back accident investigations to the instructions of pilot who were careless, reckless or incompetent."

Road Builders Aid For Air Strips Asked

A resolution making that public road building equipment be made available to farmers desiring to build air strips, on a cost basis, providing the farmers agreed to maintain the strip as an emergency landing facility for public use, was voted at the recent national aviation conference held at Atlantic City, under CAA regional sponsorship.

Some other resolutions called for:

• An ACAA research program in cooperation with manufacturers to find that better planes may be made available.

• A method to provide accurate and current weather information covering off-airway points.

• Simplification of FCC procedures as short licenses for personal use of radio transmission may be processed promptly.

• Added responsibility on operators and instructors for the proper instruction of student pilots as

Briefing For Private Flying

READY FOR TEST—Goss Britain's first simplified control private plane, the *Christie Ace*, four-place high-wing tri-cycle gear aircraft (*Aviation*, Nov. 19) was due to flight test recently at Bletchley airport. Prototype is powered with a 125 hp. Lycoming flat head, although originally the plane was to have used a 100 hp. Mustang. Besides the linkage of rotor operation to the control wheel motor, interesting feature is a fuel-operated throttle override for convenience in landing after hard throttle has been closed. Presumably it could also be used in the air if desired. The plane is expected to cruise at 115 mph, with 45 mph, stall speed and 127 mph top speed. Range is estimated at 200 miles, tankful run in clear 50 ft. altitude at sea level at 750 ft. and equivalent landing run at 200 ft. Advertised as the latest priced plane in the world, the Ace was priced at \$2095, although this may have been changed recently.

LANDING FEES—Lockhart Air Terminal, Burbank, has put into effect a fee of \$2.50 per landing for single-engine planes and \$5 per landing for twin engine planes of up to 25,000 lb. gross weight. The fees are self-imposed, with the fee of stamping post of the current lightplane traffic from the field, as a move toward making of the a contract air freight terminal. The terminal had 12,000 landings in September, prior to putting in the landing fees. August figures showed 1032 landings and takeoffs of aircraft, as against 107 in August 1944, while last year landings and takeoffs numbered 1405 in August 1943 and 1945.

IMPROVE MATLAND STRIP—Project to improve Matland Air strip, on the Milwaukee river front, one of the few downtown landing fields for private flying, is being urged in a resolution presented to the city council, calling for \$100,000 expenditure by the city, plus any federal aid that can be obtained. Improvements would include paving the present rubber-covered runway, and building hangars and administration facilities in the hollow undermarks of nearby Lincoln memorial bridge. The city spent \$100,000 on the field before 1934 for purchase of land and construction of the runway. It was decided in 1945 to return it to use as a lightplane field, the city has spent \$25,000 for grading, planning, fencing and topsoil on the field. The strip also might be used as a downtown terminal for rapid airport shuttle service in Hills Mitchell Field, Milwaukee's existing major air terminal.

WEATHER BROADCASTS FOR PRIVATE FLYERS—Dr. F. W. Reifelstein, chief of the U. S. Weather Bureau, has announced plans for test broadcasts from commercial radio stations of weather information for pilots, emphasizing the weather information broadcast over CAA radio stations. Stations in Madison, Wis.; Chicago, Wichita, Kan.; Miami, Fla.; and Lubbock, Tex., will be the first to be picked to receive verbal and visual areas in the plane and the mountain, for a complete trial of the experiment. Stations, wave-lengths and time of broadcasts are to be announced later. The Weather Bureau has also available a schedule of current broadcasts made from state of its local offices which may be obtained by writing the U. S. Weather Bureau, Washington, D. C.

—Alexander McNulty

meteorology and navigation for inter cross-country flying.

• Flight check on any pilot before he is permitted to fly a plane.

• Enforcement of "any move" on the part of the CAA which will be a danger to the private pilot.

• Personal proper hazard to personnel on the ground or in the air, also noise hazard, and that this be brought to attention of the manufacturers.

Pending at the meeting were

Fred Laster, sixth rank administrator, and his assistant for personal flying development, Carl W. Clifford. The resolution about propeller was in response to a suggestion from Laster. "That he had been trying to get the manufacturers to do something about propellers Laster advised that he did not believe 'the average family' would buy a plane with the propeller out front as a hazard."



The Decca Track Control Unit

The Decca Track Control Unit already goes far to eliminate what could well prove to be the bottle-neck of the future—namely, traffic congestion at the main airports.

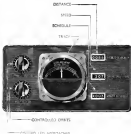
The unique and revolutionary instrument can only present to the pilot on a single display panel all information necessary to allow him to follow any required track, but also includes search information of any one of a large number of standard approach to the terminal airport.

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TRANSPORT

Alaskan Air Chaos Expected To Stir CAB Regulating Action

Battle between certificated and noncertificated airlines better as Board prepares to tighten restriction over both types of carriers.

By MERLIN MICKEL

Air transport conditions in Alaska have reached such a confused point that CAB is expected to act soon to tighten restrictions over both certificated and noncertificated carriers in the Territory. The conflict between these two groups is even more pronounced there than in the U. S. The certificated carriers generally feel that their unrestricted competition should be put out of business, while the latter maintain that they are filing a public need and should be allowed to continue operations.

Board Action Likely.—CAB has been studying the situation some time (AVIATION NEWS, Feb. 26, 1946) with an eye to removal action. The item this will take has not been announced, but probably it will involve an investigation of carriers allegedly operating without Board authority or outside the scope of its exemptions, with steps to prosecute where violations are evident.

Stricter regulations and enforcement of certificate obligations also are in prospect for Alaska's uncertificated carriers. Control over service suspensions likely will be tightened and accounting reports and tariff and schedule notices required.

Some service was abandoned during the war by the certificated operators, who in most instances for both regular and irregular routes, because of economic conditions or equipment and personnel shortages. Meanwhile, uncertificated carriers, many of whom had been doing war contract flying, came into the picture to offer strong competition where regular service had been reduced.

Want Enforcement.—Certificated operators feel generally that the Board should bear down in its en-

forcement of the law as it applies both to themselves and the noncertificated carriers. They feel that Board action in the Alaskan situation thus far has been inadequate. In favoring elimination of the uncertificated group, they concede that they themselves must be made to provide the service required by their certificates or else forced to relinquish them, perhaps to someone else.

The main competition from either certificated carriers or noncertificated operators who may appear on the scene overnight, they contend, will hamper development plans. They deny without mention having named the uncertificated carriers who they charge sometimes cut rates to get business and at

other times charge exorbitantly when the traffic will bear it.

There also have been complaints that uncertificated operators get business by listening in on radio calls intended for others, and sometimes pick up traffic on the day before arrival of the scheduled carrier.

Veterans on Issue.—Uncertificated carriers, on the other hand, believe they are offering a flexible, personalized service that is necessary in the areas they serve. Although not in agreement on certification, some feel it might be advisable as a method of keeping new operators from coming into the field. Some believe that every veteran should be permitted to fly, while others favor an entire absence of regulation.

There are between 30 and 35 noncertificated operators in Alaska, according to the latest figures, compared to about a score of certificated. The latter is down to about 15 if the Board approves pending acquisition and consolidation proposals. Estimates are that the uncertificated group owns a little less than half of the planes in the Territory, which numbered around 160 last summer, but because of its smaller equipment, has less than a fourth of the total seating capacity.

One matter to which the Board is expected to devote attention is that of mail rates for the certificated carriers. Those prevailing



PACKET RIGGED FOR MAIL

The rear view of the Fairchild C-42 Packet shows how the bag plane outfitted with mail bag storage racks, parcel seats, parcel post bins and sorting racks for its port is special service. Figure shows this month's plans to increase mail capacity by United Air Lines, the plane once has been returned to the Fairchild plant at Muskegon, Mich., where it was stripped of the mail gear and prepared for delivery to the Army, with whom the Post Office Department made arrangements for its use.

Give the Newcomers a Chance

Editor's Note: The following letter by William R. Kent, of Southern Air Services, to the Pittsburgh Chamber of Commerce, speaks for itself!

BRADEN H. WOOD

The Sept. 16 *Aviation News* carries a story about "a representative of the Pittsburgh Chamber of Commerce" asking CAA to adopt proposed amendment No. 3 to Section 232.1 of the act which presently prohibits unscheduled air carriers from economic competition.

It is quoted: "For months I have interviewed young pilots who want to get into aviation for themselves. Most of them are entirely ignorant of the principles of conducting a business made from the knowledge of those a plane, and it would be in their own interest to discourage them by the imposition of the proposed regulations. After the Baled has made its decision in the matter, I shall submit applications there will probably be certified service between practically every pair of cities in the country so there would be no need for inexperienced and untrained operators."

This is an unusual statement for a chamber of commerce. I have always had the extremely erroneous impression that the primary purpose of any chamber of commerce was the promotion, stimulation and development of the city and trade area which it served. It is startling to find the Chamber attempting to discourage entry of veterans and others into a new and expanding field of aviation. It is even more startling to find the Chamber petitioning a governmental agency to discourage free enterprise.

I am a nondescript air carrier and aircraft service operator. I started in business in 1933, right at the bottom of the depression, with one airplane, one pilot, one mechanic and one porter. I am still in business, and in the intervening 14 years my company, Southern Air Services and its affiliates, have taught some 36,000 students to fly, have paid hundreds of salaries and have flown over one million hours. I am president of the Pennsylvania Flying Society and one of the Executive Committee of National Trades Association, both of whose memberships constitute large and important segments of unscheduled aviation.

You will understand, therefore, why I am somewhat concerned over the ability, or desirability, of your organization having the continuous and unrelenting call to any who should and who should not be permitted to engage in private enterprise. Surely you know that the industry, the aviation, determination, you are now so willing to discourage, are not only the things which made this great country of ours, but particularly aviation as we know it today. Don't you remember when the airlines now served your city were starting but small flying services, much smaller than yours are now trying to legislate out of existence? Don't you remember your fellow townsmen, Clifford Hall, who had the original contract between Pittsburgh and Cleveland, or Pennsylvania Air Lines and Transport Co., Central Air Lines, Thompson Aeronautical Corp.? You should, because Capital Airlines—PCA—started in your own back yard.

Don't you recall Pittsburgh Aviation Industries Corp.? Or the days when Transcontinental Air Transport had an arrangement with the Pennsylvania Railroad? What now Trans World Airlines flying half way around the world. How about Atlantic, Gulf and Caribbean Airways flying between Miami

and Havana? Do you remember it as the beginning of the present war that American World Airways? What about Pitcairn, Florida Airways and Lubington? Do you recognize them as the Eastern Airlines of today? Did you ever know that Delta Air Lines started at a crop dusting outfit and used to follow the seasons, leading its fliers into Mexico, Central and South America? Now it goes east and west, north and south, and its stock is valued on the New York Stock Exchange at over fifteen million dollars. In 1933, the first landing to display the Bessie Coleman was a single-engine Cessna plane which won the military war between Oklahoma City and Tulsa. One pilot and two ground helpers constituted the entire airline personnel. Today, only 18 years later, Bessie International Airways is our fourth largest airline with 33,000 route miles all the way from Chicago to Buenos Aires.

And have you heard of these "inexperienced and untrained" operators, G. T. Baker and Carleton Palmer? Baker was in the automobile finance company business in Chicago but he took a chance in 1933 and had as an annual route 142 miles long between Dayton, Beach and St. Petersburg, Fla. He was awarded the contract, and with four wings (on two old Ryans), a prayer and \$1000 he built National Airlines whose value today is appraised at some twelve million dollars.

Carleton Palmer, another risk individual, started an airline in California known as Pacific Seaboard Airlines. Would you recognize it as Chicago and Southern Airlines, flying not only in the west coast but up and down the Mississippi Valley and throughout the Caribbean?

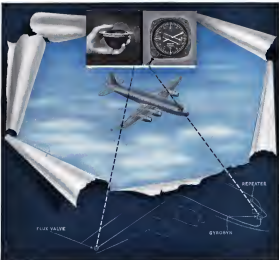
That enough of history. What about the aircraft manufacturers? These industrial giants who in 1934 turned out four times the dollar volume of the automobile industry in its best year? I am sure you have heard the sighs of how Donald Douglas got help from the Los Angeles Chamber of Commerce in order to build two planes for the Army Air Corps and then founded the Douglas Aircraft Company.

And did you know that as recently as 1935 a quarter interest in one of our largest aircraft manufacturing companies could have been bought for \$25,000? This quarter interest was valued recently at over twelve million dollars, but nobody wanted it then.

Think back to the beginnings of Consolidated, Bonanza, Mohr, Lockheed, McDonnell, Bell, and Beech and look at their balance sheets. What would our airport have been in the last war and what would have been our chance of victory had these "young birds" headed the same kind of attitude in their own interest? You are kidding and so am I.

This is only a part of the record. Many fields of aviation are still new and unexplored. It will take time and wisdom and the same optimism characteristic of these earlier pilots and dreamers who, too, were "entirely ignorant of the first principles of conducting a business" to decide these new possibilities. Some will fail but some also will succeed and from their successes will come other exciting and important chapters in the dynamic history of aviation.

Give these newcomers a chance. Most of them have more know-how than the powers that be when they started. Don't put obstacles in their way. They will have enough of them to surmount. And above all let them be free to do as they please. If they have had to engage in American free enterprise of any



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